

Gardening Handbooks for Amateurs

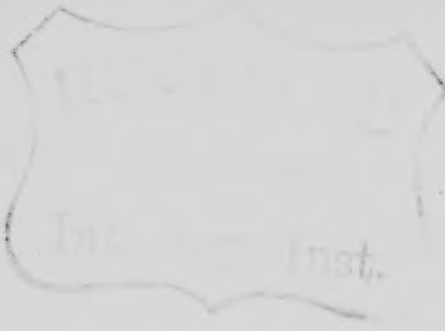
THE BEGINNER'S GARDENING BOOK

by H.H. THOMAS

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THE
BEGINNER'S GARDENING BOOK

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Pea Duke of York. (See page 56)

THE BEGINNER'S GARDENING BOOK

BY

H. H. THOMAS

Editor of "The Gardener"

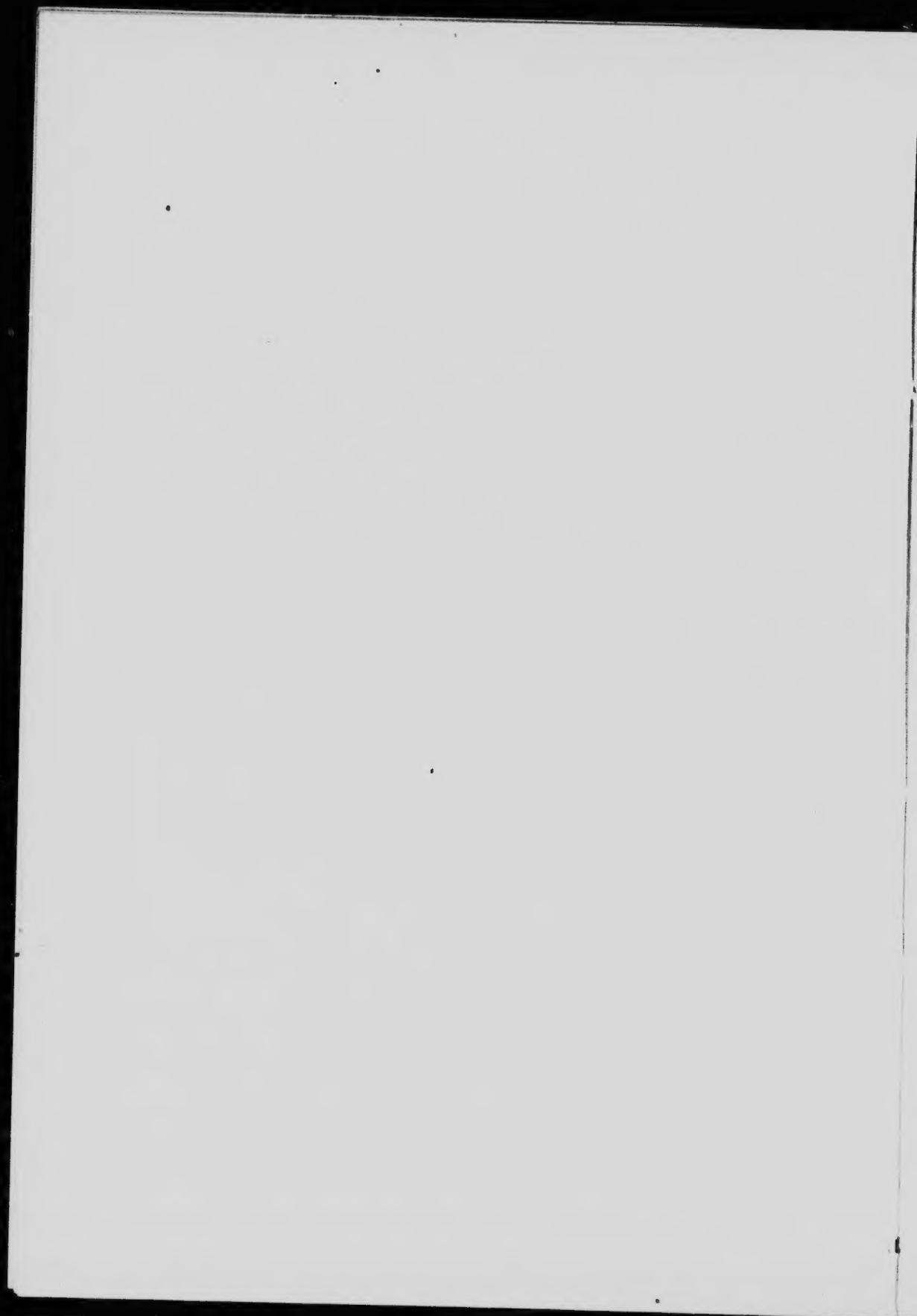
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The Beginner's Gardening Book

GENERAL INFORMATION

Getting Full Value from the Ground.—Gardening depends for success chiefly upon tillage of the soil; good results cannot be obtained unless the land is dug to a depth of about 2 feet, or what the professional gardener calls two "spits." The word "spit" signifies the depth of soil that is taken up by the spade in process of digging. All vacant ground ought to be dug in autumn and thrown up roughly, so that it is exposed to the beneficial action of frost, snow, rain, etc. Then, in spring, when the time for sowing and planting approaches, it will crumble readily on being forked over. Generally, it is only in the kitchen garden that plots are vacant in autumn; but the soil among Roses, shrubs, and herbaceous plants ought to be forked over, all leaves and rubbish being removed and burnt, or added to the compost heap. The proper way to dig a small plot of ground is as follows: Take out a trench 2 feet deep and 2 feet wide across one end; place the soil in a wheelbarrow as it is taken out, and deposit it alongside the opposite end. Then mark out another width of 2 feet, and turn the upper "spit" of this in the bottom of the trench, thus bringing the first and second trenches to the same level. Place the remaining "spit" from the second trench into the first trench, thus bringing

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this to its normal level and opening the second trench to a depth of 2 feet. Shovel up the loose soil, placing it on top of the other, and fork up the bottom of the second trench. The work is carried out in this way until the end of the plot is reached, when the soil taken out of the first trench is used to fill the last one. If the finest flowers and vegetables are wanted, the ground ought to be dug 2 feet deep. It is, however, not advisable to dig fresh ground in this way at first, otherwise the unfertile subsoil will be brought to the surface. In dealing with fresh pasture land it is best to remove and stack the turf, which may then be dug in a year later.

Manuring the Soil.—If good yard manure is obtainable, nothing better is to be had, but much of that which is now sold is poor stuff so far as its manurial worth is concerned, though it is of value in adding humus or decayed vegetable matter to the soil. On heavy ground, strawy manure is useful, because it improves the mechanical condition of the ground and makes it more porous. Cow and pig manure are best for light land. Poultry manure, too, is of great value, though it needs to be used with care. The proper way is to collect it as it becomes available, and when a heap is formed, to mix it with an equal bulk of dry soil. It must be kept under cover and mixed occasionally. In two or three months' time it will be ready for application to the ground. Scatter it thinly among plants, or on a vacant plot, and fork it beneath the surface. All yard manure is best applied in autumn, and ought to be put not less than 12 inches deep.

 Artificial Manures

Artificial Manures. — Of these the most generally useful is basic slag; it is invaluable for the fruit, flower, and kitchen garden, and should be applied in early autumn, at the rate of 6 ounces per square yard. It may be used on a vacant plot and dug in, or scattered between plants and shrubs and hoed or forked beneath the surface. Basic slag contains a good deal of lime, and its use tends to keep the soil in a fertile condition, while it has direct manurial value also. This material is a by-product obtained in the manufacture of steel, and the more finely ground it is the greater is its value. Superphosphate of lime is another artificial manure of great value to the amateur; the best time to apply it is two or three weeks in advance of sowing or planting in spring, though it may also be scattered alongside the rows of seedlings, care being taken that it is not sprinkled on the leaves. The rate of application is 2 ounces per square yard. Sulphate of ammonia and nitrate of soda are quick-acting, nitrogenous manures, useful for application in spring to give a fillip to the growth of seedlings that are not making satisfactory progress; they are best used among crops valued for their leaves, for they have the effect of encouraging vigorous leaf growth. They ought not to be used on poor ground. The rate of application of each ought not to exceed 1 ounce per square yard. Superphosphate, nitrate of soda, and sulphate of ammonia may be used in liquid form; the first at the rate of 1 ounce in 3 gallons of water, the other two at $\frac{1}{4}$ ounce per gallon of water; care should be taken to keep the liquid off the leaves.

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Common salt is useful for application in winter or early spring; it makes the soil distasteful to ground pests, and is appreciated particularly by such vegetables as Asparagus, Beetroot, and members of the Cabbage family. Not more than 1 ounce per square yard ought to be used.

Soot which has been exposed to the air, though protected from rain, for two or three months is also useful for getting rid of ground pests, and is valuable as a manure. Wood ashes form a valuable fertiliser, and ought now to be carefully preserved, for kainit is scarce and dear; they may be scattered freely on the ground in spring and forked in. Wood ashes must be kept dry until used. Artificial manures have increased in price very considerably during recent years, and amateurs ought to rely largely upon the compost heap. Fallen leaves, the dead stems of herbaceous plants, weeds, turf edgings, and vegetable refuse should be preserved and thrown into a heap or pit dug in the ground; if it is sprinkled occasionally with lime and soot and household slops are poured over it, a valuable heap will be available in the course of a few months.

How to Sow Seeds.—To be able to sow seeds correctly, it is necessary to have some idea of the size to which the plants will grow; some, of course, need more space than others. In almost every case thin sowing is advisable; if the seedlings come up like Mustard and Cress, it is a difficult matter to thin them out properly. Whenever possible, the seeds should be sown in drills, drawn with a hoe alongside a line. The smallest seeds scarcely need any soil covering;



Sowing Seeds

it is sufficient to sow them on the surface, and to rake the soil afterwards. There is no doubt that more losses occur owing to sowing too deeply than not deeply enough. Even seeds of fair size need a covering of only about half an inch; large seeds, such as Peas, may be put from 1 inch to 2 inches and Beans 3 or 4 inches deep. In sowing seeds in the greenhouse, scatter them thinly on a flower pan, properly drained, and filled to within $\frac{1}{2}$ inch of the rim with finely sifted sandy soil. The smallest seeds, such as those of *Primula* and *Pegonia*, should have merely a slight scattering of silver sand, while larger ones are covered with about $\frac{1}{4}$ inch of sifted soil. A separate hole, about 1 inch deep, should be made for large seeds. After the seeds are sown, syringe the soil lightly, cover the pan with glass and the glass with brown paper. The soil must be kept moist by syringing daily, or as often as is necessary. When the seedlings show through, the covering must be removed, and the pan placed within 12 inches of the glass, otherwise the little plants will become "drawn."

How to Treat Seedlings.—As soon as the seedlings have formed one or two true leaves, as distinct from the seed leaves, they must be transferred to other flower-pots or pans at a greater distance apart. This is called "pricking off." The proper way to remove the seedlings is, with a small stick or label in the right hand, to loosen the soil beneath them, and with the left hand to take hold of the leaves and lift them up carefully. They ought immediately to be transferred to fresh pots (previously filled with

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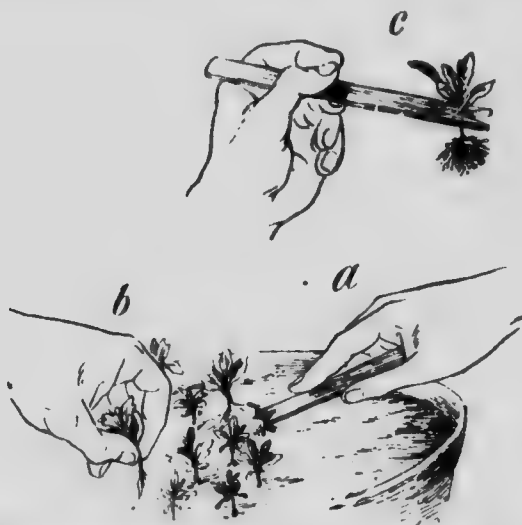
sifted compost), at such a depth that the base of the seed leaves rests upon the soil. Seedlings must be kept within a reasonable distance, say 12 inches, of the glass to prevent their becoming thin and weakly. For some days all necessary moisture can be given by means of the syringe, but as the little plants become well rooted they must be moistened by means of a watering-can having a "rose" on the spout. If the seedlings, when first "pricked off," are put at 3 or 4 inches apart, the next shift will be singly into small pots or to borders or beds out of doors, after they have been "hardened off" in a frame, according to the use to which they are to be put. A malady known as "damping off" often plays havoc among seedlings; the little plants decay at the base and collapse, and a few diseased seedlings will soon affect others. "Damping off" is usually caused by sowing too thickly, giving too much water, and keeping the atmosphere too warm and moist.

When and How to Plant.—The chief planting time for hardy trees, fruit, shrubs, Roses, and herbaceous plants is in autumn, the months of October and November being the best. It is a great advantage to complete planting by the end of October or early November, while the ground is still comparatively dry. The work can be carried out with so much greater convenience then than after the heavy autumn rains which usually occur in November. Planting may be done during winter, when the weather is mild, and until late March and early April. But the first season's results are much finer when plant-



When and How to Plant

ing is completed in early autumn. If the ground is wet at planting time, a bushel or two of dry soil ought to be used for placing about the roots. Amateurs make the great mistake of planting too deeply. Two or three inches of soil above the roots are quite enough, even for trees, while the uppermost roots of herbaceous plants need not be covered with more than from 1 inch to 2 inches.



Seedlings should be transplanted as at a and c, not pulled up as at b

The soil must be made quite firm by treading, except in the case of small plants, when the soil should be pressed well to the roots with the hands. The roots must be spread out as far as possible, and the hole be of sufficient width to accommodate them. It is a mistake to allow manure to come in contact with the roots; this material should be at least 12 inches down. Plants in pots must be watered thoroughly the day before

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they are planted; it is an advantage to leave a saucer-shaped depression in the soil round the stem, so that when water is applied it shall make its way through the original mass of soil and roots. After a severe frost, plants freshly put in are often lifted partly out of the soil, and ought to be pressed down firmly again.

When stakes have to be used, as, for example, to support standard trees, they should be inserted after the tree is in position and before the roots are covered. When tying the stem of the tree to the stake, first pass the string twice round the latter and then tie it round the stem. A piece of leather is often placed round the tree stem to prevent the string cutting into it. Although October and November are the best months in which to plant leaf-losing trees and shrubs and most herbaceous plants, evergreens, particularly Conifers and other choice kinds, are best planted in September or April.

When and How to Prune.—Roses are pruned from the middle to the end of March; Tea Roses, being more tender, are pruned during the first two weeks of April. The Jackmani Clematises are cut to within 12 inches of the base of the past summer's shoots in February; those of the lanuginosa section, such as Beauty of Worcester, are also pruned in spring, but the shoots are only shortened by about half. Clematises may be left unpruned if there is plenty of space for them to develop. Shrubs that blossom in spring—such, for example, as Winter Jessamine and Forsythia or Golden Bell—are cut back after the blossoms are over. Shrubs that bloom in late summer—

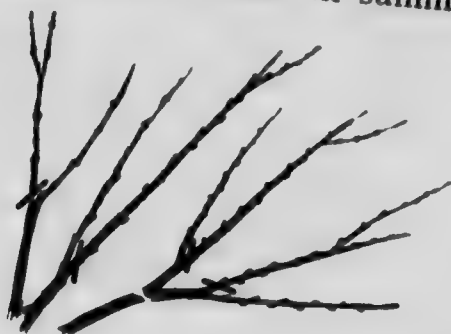
Pruning Fruit Trees

such as *Ceanothus Gloire de Versailles*, *Hydrangea paniculata*, and *Spiraea Lindleyana*—are cut down in spring. Many shrubs do not need regular pruning, but old shoots should be cut out occasionally to prevent their becoming crowded and to allow fresh ones to develop properly. Seed pods ought to be removed from *Rhododendron*, and *Azalca* and *Heaths* should be cut over when the flowers have faded. *Rhododendrons* that have outgrown their positions may be cut back in spring. In dealing with the *Lilac*, sucker growths, those that start from the ground, must be cut out, and when fresh shoots are forming on the branches in early summer, some of them ought to be rubbed off. Allow only sufficient to supply the required number of branches. Cut out old and worthless shoots when the flowers are over. Many low-growing and creeping plants on the rockery, and at the front of the herbaceous border ought to be cut well back as soon as the flowers have faded; this has the effect of keeping the plants compact. Such are referred to as *Aubrietia*, *Yellow Alyssum*, *Iberis* or *Evergreen Candytuft*, dwarf *Phlox*, and *Mossy Saxifrage*.

Pruning Fruit Trees.—Hardy fruit trees may be pruned at any time between the middle of December and the end of January. It is usual to defer pruning the *Gooseberry* until February, because the birds often destroy so many of the buds; if the shoots are left unpruned until early spring the basal buds, which are most valuable, are less likely to be damaged. *Apple*, *Pear*, and *Plum* trees are pruned in much the same way. Shoots not wanted to extend

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the branches or to fill blanks are shortened, during late July, to five or six leaves, and in winter are further cut back to within one or two buds. Shoots at the ends of branches are not shortened in summer, but in winter one-third is cut off. In dealing with Plum trees on a wall it is often advisable to leave some of the shoots unshortened in summer, and in winter to



Pruning Peach Tree
—old shoots are
cut out in autumn
to make room for
new ones

tie them in, after they have been cut back by one-third. The Morello Cherry, Peach, and Nectarine need careful treatment; they bear fruits on the shoots of the previous summer's growth. When the fruits have been gathered the old shoots are cut out and the fresh ones are tied in to replace them. Disbudding is an important item in the care of Peach and Nectarine trees. In spring many little growths form on last year's shoots, and all must be removed except one near the base, and one at the top, and possibly one at the centre if there is room for it. A few shoots are removed at a time, and the whole work is spread over two or three weeks.

The pruning of Raspberries and all other berried fruits is simple. In autumn the shoots

Pruning Fruit Trees

which have fruited are cut out and fresh growths or stems are tied to the support to replace them; the fresh stems must be limited in number. Not more than half a dozen ought to be left to each Raspberry root, and as many as can conveniently be trained at 10 inches apart, in dealing with the



The correct way to train a young fan-shaped fruit tree; prune as shown by the cross lines

other fruits. The Sweet Cherry bears its fruits chiefly from spurs, which form on the branches naturally; this is assisted by pruning the side shoots in summer, and further shortening them in winter. It is, however, a mistake to cut the branches of Cherry trees hard, for a malady called "gumming" is liable to attack them. Instead of allowing useless shoots to develop, rub

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them off when they are small. The Gooseberry and Red and White Currants bear fruits freely when summer and winter pruned in the orthodox way, as advised for Apple and Pear. But when the Gooseberry is grown as a bush it is often advisable to leave some of the fresh shoots about two-thirds of their length, for they will bear abundantly the next season. The Black Currant bears its crops upon the shoots of the previous summer, therefore pruning in this case is directed towards cutting out the old stems to make room for the young ones.

How to Take Cuttings.—The two chief kinds of cuttings made use of by gardeners are those formed from hard or ripened growths, and others made of fresh green shoots. Innumerable plants are increased in the latter manner, while Roses, bush fruits, and shrubs are chiefly propagated in the former way. The cuttings made from green shoots are inserted in pots of sandy soil, placed under a bell-glass out of doors, in a frame kept closed, or in a case in a greenhouse, according to the amount of warmth they need. The pots must be well drained and filled with sifted sandy soil, and silver sand is scattered freely on the surface. It is found that cuttings form roots more quickly when placed near the margin of a flower-pot than when in the centre. A blunt-ended stick is used, and care is taken that the base of the cutting rests upon the bottom of the hole. It is necessary to make the base of the cutting firm by pressing the soil to it at that point. Cuttings ought to be kept shaded from sunshine, syringed once a day more or less according to the



How to Take Cuttings

state of the weather, and they must be kept in a closed case or under a bell-glass for three, four, or five weeks—some kinds form roots more quickly than others. When they are found to be rooted, which can usually be decided by the appearance of the cuttings and by the fact of their putting forth fresh leaves, they must be given more air, and soon afterwards be potted singly in small pots. Cuttings of this kind are inserted, in most cases, during the spring and summer months.

Cuttings made from firm or matured shoots are inserted out of doors in September and October. A trench 9 or 10 inches deep is dug and a layer of sand, from 1 inch to 2 inches deep, is placed at the bottom. The cuttings are put in at about 8 inches apart, a little soil is added and trodden down so that the cuttings shall be firm at the base. The remainder of the trench is then filled in. Cuttings of this kind are made from shoots that grew during the past summer; they ought, if possible, to be not less than 9 or 10 inches in length, and two-thirds of each cutting should be beneath the soil. After frost, it is necessary to press the soil firmly around them. The cuttings ought not to be disturbed for twelve months. Root cuttings are made by digging up the roots of the plants to be increased, cutting them into pieces 4 or 5 inches long, and placing them, just beneath the surface, in pots filled with sandy soil. If inserted in autumn, and kept in a frame until spring, they may be planted out of doors when severe weather is past. The Dropmore *Anchusa* and Japanese *Anemone* are two of the comparatively few plants increased in this way.

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THE FLOWER GARDEN

Planting a Hardy Flower Border.—The best time to plant is in October or November. The ground ought to be dug about 2 feet deep, and enriched with yard manure; if this is not to be obtained, basic slag may be used instead. It is a great mistake to crowd the plants; they never look their best unless they are able to develop properly. This is especially true of those that form large clumps, such as Delphinium, Helenium, Michaelmas Daisies, etc. The vigorous kinds ought to be chiefly, but not wholly, at the back of the border; if a few are planted towards the front they will serve to break up the monotony of outline. The aim of the amateur should be to group two or three of a kind together, and arrange them so that when one lot has finished blossoming another near by is coming into bloom. The accompanying plan gives an idea of how this can be done, but anyone can work out fresh schemes to suit his own wishes. He has only to make a selection of plants and study the height to which they grow, the colour of their blooms, and the time of their blossoming.

Splendid Border Flowers.—The following short list is of hardy border plants that are indispensable. Blue and White Monkshood (*Aconitum bicolor*), Double White Sneezewort (*Achillea The Pearl*), Japanese Anemone (*Anemone Japonica*), Wormwood (*Artemisia lactiflora*), Michaelmas Daisy (*Aster Amellus*, *Climax*, and *Mrs. Rayner*), Bell-flowers (*Campanula persicifolia* and *grandis*), Shasta Daisy (*Chrysanthemum King Edward VII.*),

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Golden Tickseed (*Coreopsis grandiflora*, must be raised from seed sown out of doors each June), Perennial Larkspur (*Delphinium Persimmon*, King of Delphiniums and Capri), Globe Thistle (*Echinops Ritro*), Sea Holly (*Eryngium Oliverianum*), Goat's Rue (*Galega Hartlandii*), Avens (*Geum Mrs. Bradshaw*), Chalk Plant (*Gypsophila paniculata*), Sneezewort (*Helenium Riverton Gem* and *pumilum magnificum*), Sunflower (*Helianthus Etoile d'or*), Alum Root (*Heuchera sanguinea* and *Edge Hall*), Hollyhock (*Palling Belle*), Flag Iris (Common purple, *pallida dalmatica* and *Florentina*), Blue Flax (*Linum narbonense*), Lupin (*Lupinus albus*, *Moerheimi* and *polyphyllus*), Jerusalem Cross (*Lychnis chalcedonica*), Bee Balm (*Monarda didyma*), Catmint (*Nepeta Mussini*), Evening Primrose (*Oenothera Youngii*), Oriental Poppy (*Papaver Mrs. Perry* and *Taplow Scarlet*), Phlox (*Elizabeth Campbell*, *Le Mahdi*, and *Etna*), Potentil (*Potentilla William Rollinson*), Cone Flower (*Rudbeckia Golden Glow*), Purple Sage (*Salvia virgata*), Meadow Rue (*Thalictrum aquilegifolium*), Speedwell (*Veronica amethystina*).

Quite an attractive border can be arranged with a selection from this list, together with such familiar edging plants as *Pink Mrs. Sinkins*, *Evergreen Candytuft* or *Iberis*, *Thrift* or *Armeria*, and *Tufted Pansy* or *Viola*, with a few annuals sown in spring, here and there where there happens to be room. Spring-flowering bulbs, too, may be made use of, and if planted between the vigorous perennials towards the back of the border, they will not be noticed much when the flowers are over. Plants that need staking must be attended



Making a Rockery

to before the stems begin to fall over. For the less vigorous sorts, pea-sticks may be used, but for the strong-growing kinds several sticks are placed round the clumps and connected with bands of string.

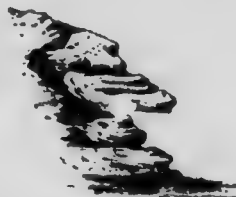
Making a Rockery.—If you would have a gay and flourishing rockery, take pains to ensure that it is properly drained. If the ground is clayey, have the soil removed to a depth of 2 feet, put in a layer of broken bricks or clinkers, and on top of them place good turfy soil with which pieces of brick and mortar rubble and stones are freely mixed. In building up the mounds of soil use similar material. Then a large number of charming plants can be grown without difficulty. Use comparatively few rocks or stones, but let the majority be large and bold. Begin to build from the bottom, and make the soil firm round about each rock. Let the surface be as undulating as possible, building high there, and making a little valley near by. Let the margin of the rockery be indented, and every now and then allow a big piece of stone to stand out boldly. The rocks or stones ought to be made thoroughly firm, and this can be ensured only when the greater part of each one is below the soil. When so arranged they look far more natural than when only slightly embedded, and, moreover, they are of greater assistance to the plants. When putting in the plants it is a good plan to take out a fair-sized hole, putting a handful of stones or broken brick at the bottom, and filling round about the roots with a compost of loam and leaf-mould with which sand and stone chips are freely

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mixed. It is true that this attention is not essential with the commoner kinds, but all alpinines thrive better for it. If stone chips are scattered on the soil among the plants when the work of planting is completed, the rockery will gain in attractiveness and the roots of the alpinines will be kept moist in hot, dry weather. It is necessary to water freely during May and June if the



Here and there, even in the small rock garden, there should be a bold promontory of stone



Overhanging ledges should be avoided as far as possible: plants below them may suffer from drought

weather is hot and dry, for it is then that rock plants grow most quickly.

Beautiful Rockery Flowers.—The following kinds are to be recommended; all are easily grown in a sunny rockery made in the manner described: Yellow Alyssum (*Alyssum saxatile*), Rock Cress (*Aubrietia Pritchard's A1*, purple, Bridesmaid, pink, and Fire King, crimson), Bell-flower (*Campanula pusilla*, blue and white), Pink (*Dianthus caesius*, pink), *Gypsophila repens* (blush), Sun Rose (*Helianthemum vulgare*, white, rose, yellow, and other shades), Perennial Candytuft (*Iberis sempervirens*, white flowers, evergreen foliage), Blue Flax (*Linum narbonense*, 18 inches), Evening Primrose (*Oenothera Missouriensis*, yel-



Beautiful Rockery Flowers

low, trailing), Alpine Poppy (*Papaver alpinum*, yellow and white, 6 to 8 inches), Creeping Phlox (*Phlox subulata*, rose-pink), Rock Jasmine (*Androsace sarmentosa*, creeping, rose coloured, cover with glass in winter), *Primula frondosa* (pale rose, 4 to 5 inches), *Primula denticulata* (pale mauve, 12 inches), Soapwort (*Saponaria ocymoides*, creeping, rose colour), Rockfoil (*Saxifraga aizoon*, *cochlearis* and *Engleri*—all Silvery Saxifrages,



Alpine Catchfly (*Silene alpestris*), a y rockery flower

having grey leaves and producing graceful sprays of pale blossom in early summer), Mossy Saxifrage (*Saxifrage muscoides*, *hypnoides* and *Bathoniensis*—all form moss-like cushions and in spring have white, rose, and red flowers respectively, they like half shade), Stoncrop (*Sedum Ewersii*, 4 to 5 inches, grey leaves and rose-purple flowers, *Sedum snathulifolium*, creeping, grey leaves and yellow vers), Thyme (*Thymus lanuginosus*,

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forms a close carpet of fragrant foliage), Speedwell (*Veronica rupestris*, dwarf, brilliant blue flowers).

How to Grow Roses.—Amateurs should obtain their bush Roses on the Brier stock and plant them in October and November, in ground that has been dug about 2 feet deep, and in which yard manure and basic slag have been mixed; the slag is used at the rate of 6 or 8 ounces per square yard. Vigorous bush Roses need to be placed 2 feet apart, while those of moderate vigour should be about 18 inches apart. If this advice is followed there is sufficient space to plant Tufted Pansies between the Roses; they do little if any harm to the latter, and add greatly to the flower display, for they are in bloom the whole summer. Full instructions as to planting are given on p. 12. In putting in standard Roses take care not to cover the uppermost roots with more than about 2 inches of soil; insert the stake before the roots are covered, and make it firm. The way to keep beds of Roses healthy is to apply a dressing of yard manure to the soil in autumn, and fork it beneath the surface; the following autumn to give basic slag instead; once every two years to apply bone-meal (3 ounces per square yard) in February; and to keep the soil loose by hoeing frequently. Applications of liquid manure, Clay's Fertilizer or guano, in May and June, about once a fortnight, also help to promote growth. When the first crop of flowers is over the shoots should be cut back slightly to a good bud, so as to ensure vigorous growths for autumn blooming.

Pruning a Rose Bush.—The first thing is to cut out all weakly shoots and those that block

✂ ✂ ✂ ✂ ✂ ✂ Pruning a Rose Bush

up the centre of the plant, and then to shorten the remaining growths. The extent to which these ought to be cut appears to present difficulty to amateur gardeners. There is, however, one thing certain: in the March following planting all shoots ought to be cut back to within one or two



How Bush Roses are pruned

buds of the base. In subsequent years the problem is not so easily solved, and probably no two professional gardeners would prune exactly alike. If one excepts the Tea Roses, of which the shoots may be shortened by about half in April, it is wise to prune moderately severely each spring, otherwise the plants become bare at the base. The more weakly a shoot is, the more severely should it be cut back; the more vigorous it is, the less cutting does it need. Shoots of the average thickness of the top of one's little finger may be left

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from 6 to 8 inches long, the remainder being shortened to within from one to four buds of the base. Some of the really strong growing sorts, such, for example, as Hugh Dickson, Frau Karl Druschki, and George Dickson, need little pruning; the correct way is to treat them as pillar Roses, or to peg down the long shoots so that they form a low arch, the end of each shoot being secured in the soil.

Pruning Climbing Roses.—The chief pruning of rambler Roses should take place in late July and August. The stems that have blossomed are then cut out, and the fresh growths of the current year are tied to the support to replace them. Some of the ramblers produce fresh shoots from the base very freely, but others do not, and it is obvious that the old stems must not be cut out in greater number than there are fresh stems to replace them. Often a fresh shoot arises upon the old stem at some little distance from the ground; in such a case the old stem is cut down only as far as the fresh growth.

There are many climbing Roses to which this method of pruning does not apply; for instance, the climbing Teas, climbing Hybrid Teas, and Noisettes. These do not, as a rule, send up fresh stems from the base freely, and pruning must be limited to cutting out such old branches or parts of branches as can be replaced by fresh ones. All climbing Roses will blossom from stems more than one year old—not from the stems direct, but from side shoots, which are cut back to within about 2 inches of the base in March. When first pruning newly planted climbing Roses it is best,

Good Bush Roses

I think, though not essential, to cut down the stems to within 6 inches of the ground; the plants are then certain to send up fresh, vigorous growths which will yield a good display the following summer. However, if so desired, the



A Garden of Roses

strongest of the stems may be left half or two-thirds long to provide blossoms the first summer. Climbing Teas and Hybrid Teas ought not to be hard pruned in the spring following planting. Let the weak stems be cut down to within a few inches of the ground, and the strongest ones left about 2 feet long. In subsequent years cut out old shoots to make room for new ones.

Good Bush Roses.—*Vigorous, suitable for back row of border or middle row of bed: La Tosca,*

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salmon blush; Prince de Bulgarie, blush with orange shading; Madame Léon Pain, shades of rose with yellow towards the centre; Laurent Carle, carmine red; General McArthur, red; Betty, pale rose and yellow; Caroline Testout, pink; Captain Hayward, bright red. *Of moderate vigour, suitable for the second row of border or bed:* Lady Ashtown, pink; Wm. R. Smith, cream and rose; Duchess of Wellington, orange yellow; Ophelia, blush with yellow shading; Lady Pirrie, copper and pink; Mrs. Alfred Tate, pink and bronze; Gustave Grünerwald, bright pink; Lieutenant Chauré, red; Madame Abel Chatenay, salmon pink. *Less vigorous, suitable for front row of bed or border:* Madame Antoine Mari, cream and rose; Richmond, red; Mrs. T. Hillas, orange yellow; Lady Roberts, apricot; Joseph Hill, yellow and rose; Mrs. Herbert Stevens, almost white; Augustine Guinoisseau, blush white; K. A. Victoria, white; Mrs. Peter Blair, yellow; Souvenir de Gustave Prat, sulphur yellow.

Standard Roses.—The following are some of the best Roses to grow as standards: Gustave Grünerwald, bright pink; Caroline Testout, pink; General McArthur, red; Frau Karl Druschki, white; Madame Abel Chatenay, salmon pink; Lady Ashtown, pink; Harry Kirk, yellow; Fisher Holmes, crimson; Lyon Rose, intense rose and yellow; Madame Léon Pain, deep rose with yellow shading; Lady Hillingdon, orange yellow; Lady Roberts, apricot; Betty, rose and yellow; and Dean Hole, salmon pink.

Weeping Standards are obtained by budding climbing Roses on tall Brier stems. Some of the



Flowers for Shady Border

best varieties for weeping standards are : Alberic Barbier, cream yellow ; Débutante, pink ; Joseph Billard, rose and yellow ; Hiawatha, crimson ; Excelsa, crimson ; Dorothy Perkins, pink ; and Sander's White, white. Pruning is as explained for climbing Roses.

Some of the Best Ramblers are : Alberic Barbier, cream yellow ; Aviateur Blériot, yellow ; Dorothy Perkins, pink ; Ethel, pale pink ; Excelsa, crimson ; Hiawatha, crimson ; Joseph Liger, yellow ; Lady Godiva, pale pink ; Minnehaha, rich rose ; Sander's White, the best white ; Tea Rambler, copper and pink ; and Shower of Gold, orange yellow. Excellent climbing Roses, suitable for training up poles or pillars, or on a trellis, are : Climbing Caroline Testout, pink ; Climbing Paul Lédé, orange and pink ; Climbing Mme. A. Chate-nay, salmon pink ; Climbing Liberty, red ; Climbing Mrs. W. J. Grant, pink ; Florence H. Veitch, red ; Rubin, rose-red flowers, reddish foliage ; Tausendschön, rose pink ; Zéphirin Drouhin, rose colour (The Thornless Rose), and Noella Nabonnand, crimson.

Flowers for the Shady Border.—Japanese Anemone, Foxglove, Honesty, Lily of the Valley, Violet, Lupin, Flag Iris, Plantain Lily (*Funkia*), Primrose and Polyanthus, Daffodil, Star of Bethlehem (*Ornithogalum umbellatum*), Japanese Primrose (*Primula Japonica*), London Pride, Musk, Forget-me-not, Hardy Cyclamen, Japanese Lily (*Lilium speciosum*), Spring Star Flower (*Triteleia uniflora*), together with Hardy Ferns, St. John's Wort (*Hypericum calycinum*), and the creeping variegated *Veronica radicans*.

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Spring Flower Gardening.—No flowers are more welcome than those of spring—the Daffodils, Wallflowers, Polyanthus, Aubrietia, Daisy, Yellow Alyssum, Arabis, Tulips, and Moss Pink, to mention some of the chief kinds. They make delightful beds of colour if carefully intermingled. What, for example, can be more attractive than red, pink, or yellow Tulips on a groundwork of double white Arabis; yellow Tulips among Forget-me-nots; white Evergreen Candytuft (*Iberis*) mingled with mauve or purple Aubrietia; a bed of Polyanthus; pink Tulips among yellow Alyssum; to mention but a few of innumerable associations that can be arranged? The time to plant these flowers and bulbs is in October. The beds that were filled with Geranium, Fuchsia, etc., are dug over in early autumn, when the summer flowers have lost their beauty, and after manure has been dug in the soil, the spring flowering plants and bulbs are put out. In May the latter are taken up to allow of the beds being prepared for summer bedding. It is an easy matter to raise a stock of the various spring flowers mentioned, if one possesses a few plants. Most of them are raised from cuttings taken in May; these, if inserted in a frame, or on a shady border and protected by handlights, will soon form roots. When rooted they are transplanted at 6 or 8 inches apart on a reserve border for the summer, and by October they will have grown to serviceable size. Arabis, Alyssum, Moss Pink, and Aubrietia are increased in this way. Tufted Pansy or Viola, Daisy, Polyanthus, and Primrose are increased by taking up the old roots and replanting



Summer Bedding

the best pieces; they may also be raised from seed sown in May. Wallflower and Forget-me-not are raised from seed at the same time. In dealing with Forget-me-not it is necessary merely to take up the old plants and put them on a reserve border, covering the roots with soil; self-sown seedlings will then spring up in great numbers. Spring flowering plants must be replanted on a reserve plot and left there until the foliage has died down.

Summer Bedding.—Although the practice of filling flower-beds with tender plants is not now so largely practised by amateurs as formerly, many still delight in this form of gardening, and it certainly ensures a bright display throughout the summer, though one cannot deny that it is monotonous. Planting ought not to take place before late May or early June. There is no need to add manure to the beds; they require merely to be dug over. Zonal Geranium, Lobelia, and Calceolaria are still popular, but they have not the charm of the Snapdragon, Tuberous Begonia, Ivy-leaved Pelargonium, and certain half-hardy annuals. The following are suggestions for filling beds of summer flowers: Snapdragons, pink and yellow, orange and yellow, white and yellow; Summer Cypress (*Kochia scoparia*, a beautiful green bush, becomes autumn-tinted), with purple and yellow Violas between; Southernwood (*Artemisia abrotanum*, an old grey-leaved plant), with purple Violas between; Tuberous Begonias; Geranium Flower of Spring (green and white leaves and pink flowers), with blue Lobelia beneath; Heliotrope upon a groundwork of the lilac-tinted Alys-

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sum ; China Asters ; Heliotrope above a ground-work of pink Ivy-leaved Geranium. Most of these plants are increased by cuttings taken in August and September, and inserted in boxes of sandy soil, placed in a closed frame for a few weeks. During winter they must be kept safe from frost, and in spring further cuttings can be obtained if



Beds of Summer Flowers

necessary by removing the tops of those rooted in autumn. Snapdragons are raised from seed sown in June. Tuberous Begonias may be increased by dividing the tubers when they start into growth in spring in the greenhouse, or if seed is sown in January in a warm greenhouse the plants will bloom the same year. Geranium cut-

 Border Carnations

tings form roots best when placed on a sunny shelf in the greenhouse or in a sunny frame, and given little water.

Border Carnations. —If the reader who now considers that these plants give little return, as compared with other kinds, would layer the shoots early in July, and plant the rooted layers early in October, leaving them undisturbed for two or three seasons, he would soon come to look upon Border Carnations as indispensable. They must have well-dug soil and a sunny place; some well-decayed manure ought to be dug in when the bed is prepared. Layering is accomplished by selecting some of the best shoots on each plant, making a slit along the stem by inserting the knife at one side, and turning it upwards as soon as the centre of the stem is reached, then cutting upwards through one joint, and making the slit portion secure in the soil by means of a hairpin. The lowest leaves ought to be removed and a little sandy soil should be placed round the slit. If moistened in dry weather, the layers will be well rooted by early October. In very cold districts, or when dealing with heavy, clayey soil, the layers may be potted in 3½-inch pots and kept in a frame until March, when they are planted out. Generally, however, it is best to plant in early autumn. Staking must be attended to in early summer; thin bamboos or the special coil stakes are convenient. A few of the best Border Carnations of the present day are: Salmonca, salmon; Lord Kitchener, crimson markings on white ground; Centurion, crimson markings on yellow ground; Border Yellow, yellow; Bookham

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Clove, crimson; Valliant, plum purple; Henry Brett of New Zealand, crimson; Daisy Walker, marked with crimson on white ground; Fujiyama, bright red; Amy Robsart, white; Miss Rose Josephs, old rose; Melton Prior, scarlet markings on yellow; Mrs. Andrew Brotherstone, purplish crimson and white.

Sweet Peas.—To grow the finest Sweet Peas it is necessary to prepare the ground in autumn by digging and manuring; to sow seeds in small pots in October or in January; to plant out of doors in April, and to restrict the number of stems on each plant to one, two, or three, according to the vigour of the variety, the weakest growers having only one stem. But the amateur may obtain Sweet Peas of good decorative value by sowing out of doors late in February, placing the seeds from 1 inch to 2 inches apart, and thinning the seedlings to 4 inches from each other. The height to which they will grow, and the length of time over which they will bloom, depends very largely upon the depth to which the ground was dug. The soil must be well prepared to grow good Sweet Peas, though there is no need to use much manure. The amateur who is not content with plants of average quality would do well to sow seeds singly in small pots in October, and keep the seedlings throughout the winter in a cold frame or out of doors at the foot of a warm wall or fence. The top of each little plant is pinched out in early March, and not more than three of the resulting shoots are allowed to develop. Sweet Peas treated in this way usually give far better results than those sown out of doors in



Dahlia

spring. It is important to gather the flowers before they form seed. There are many ways of staking Sweet Peas, but for an ordinary row common hazel sticks are satisfactory. When the stems of a plant are restricted it is usual to employ bamboo canes and to tie each stem to one of these. Some of the best varieties are: King White, white; Royal Purple, purple; Maud Holmes,



Sweet Peas Grown in Clumps

crimson; Dobbie's Cream, cream; Jean Ireland, buff and rose; The President, orange red; Edith Taylor, salmon rose; King Manoel, maroon; Elsie Herbert, white, with pink edge.

Dahlia.—When amateurs realise that within recent years many new varieties of Dahlia especially suited to garden decoration have been raised, they will no doubt plant these valuable autumn flowers in greater numbers. The plants of many modern sorts are compact and flower freely. A drawback to Dahlia growing is that the plants are always

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attacked by earwigs. The old fashioned though somewhat tedious way of countering this pest is by filling small flower-pots with hay or moss and placing them on top of the stakes. But I have found that syringeing the plants with Abol insecticide, towards evening, lessens the damage to the blooms by earwigs. The greatest quantity of blossom is obtained by planting the old roots out of doors in late April or early May, but the finest individual blooms are produced by plants raised fresh from cuttings in spring. The old roots are put in boxes of soil in a warm greenhouse, and as soon as the fresh shoots are 2 or 3 inches long, they are taken off and inserted in pots of sandy soil and covered with a glass case. If moistened occasionally and shaded from sunshine, they will form roots within a few weeks. When rooted, they are potted singly in small pots, and subsequently into those 5 inches wide, and after having been hardened off, are planted out of doors in June. They must be securely staked, for the shoots are liable to be broken off in wind. A few of the best decorative sorts for the garden are: Barlow's Bedder, scarlet; Brentwood Yellow, yellow; Reginald Cory, crimson and white; K. A. Victoria, white; and the Star Dahlias, White Star, white, and Crawley Star, rose.

Pentstemon.—This is an invaluable flower for summer and autumn, either for planting in a bed or border. Many of the varieties may be treated as hardy perennials and left out of doors throughout the winter, though it is best, except in warm gardens, to take cuttings in September and treat the Pentstemon as an annual. The cuttings root

 Tufted Pansy or Viola

readily in a bed of sandy soil made up in a frame, if the latter is kept closed for a few weeks. Throughout winter, in mild weather, air must be admitted freely. In April or May the Pentstemons are taken up and planted out of doors. There are innumerable named varieties, and a selection can be made from a catalogue, but the reader's attention is especially drawn to those having comparatively small flowers, such, for example, as Newbury Gem, Southgate Gem, and Mydellton Gem; they bloom very freely.

Snapdragon.—This is essentially an amateur's flower, for it is easily grown, and, if treated properly, remains in bloom practically throughout the summer. Many beautiful varieties in numerous shades of colour, orange, rose, yellow, etc., have been raised within recent years. The best time to sow seed is in June; the plants then develop into splendid little bushes by the following summer and make a splendid show. Seed is sown in a box of sandy soil and covered very lightly. If kept moist and shaded, the seedlings will soon be through. When an inch or two high they are transplanted to a prepared border, there to remain until autumn, when they are put out where they are to bloom. A particularly attractive variety is a rose pink one called Nelrose, but there are many other named sorts; seeds of separate colours can also be obtained.

Tufted Pansy or Viola.—This is another flower indispensable to the amateur; it blooms practically all the summer. It is easily raised from cuttings taken off in early September, and placed in a bed of sandy soil in a cold frame, kept

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closed for a few weeks, but ventilated freely in winter when the weather is mild. In March the rooted cuttings are planted out of doors, and will bloom from June onwards throughout the summer. If the Violas are allowed to remain undisturbed they blossom profusely from late spring until midsummer, but after that they become straggling and untidy. Even then they are much improved by being cut back; they will make fresh growth and give some further bloom.

Violet.—The Violet likes shade, and a border facing west suits it excellently. The plants are increased by layering or pegging down the shoots in April; in May, the rooted layers are taken up and replanted at 15 inches apart to form a fresh bed. During summer all runners must be removed, and the soil between the plants ought to be hoed frequently. If Violets are wanted in winter some of the plants are taken up in September and planted on a bed of soil upon a hotbed of leaves made up in a frame, placed in a sunny position. Air must be given freely in mild weather, but for a week after planting the frame should be kept closed during the greater part of the day. If Violets are wanted as early as possible out of doors they should be put on a warm, sheltered border. Princess of Wales, purple blue, is the finest single Violet, while favourite doubles are Marie Louise, mauve blue; Neapolitan, lavender blue; and Lady Hume Campbell, pale blue; while the best white is Comte de Brazza.

Bulbs.—Daffodil, Hyacinth, and April-flowering Tulips ought to be planted in October, and May-flowering Tulips early in November. The

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depth at which the bulbs are placed depends upon their size; but generally the largest bulbs of Daffodil should be put about 4 inches down and the smaller ones 3 inches. Hyacinths should be at the same depth, while May-flowering Tulips do best when planted 5 or 6 inches deep. The



A Handsome Double Trumpet Daffodil (*Cernuus plenus*)

latter are splendid flowers; the stems vary from 18 to 30 inches in height, and hold the blooms well up to view. These Tulips bloom in May, when the spring flowers proper are past their best, and before those of summer open; thus they ought to find a place in every garden. All early-flowering bulbs, such as Snowdrop, Squill, Glory of the Snow, Winter Aconite, etc., should be

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planted not later than the first week or two of September, otherwise they do not make a good show the first season. All the small kinds commonly grown, together with Daffodil and May-flowering Tulip, may be left alone from year to year. Hyacinths continue to bloom in succeeding years, but the flower-heads are never so fine as in the first season. Many of the April-flowering Tulips are not worth keeping from year to year.

In March and April amateurs should plant Gladioli and Cape Hyacinth (*Galtonia candicans*); both are valuable for late summer bloom. Spanish and English Irises ought to be planted in October; the Madonna Lily (*Lilium candidum*) in August; *Lilium auratum*, *speciosum* and *tigrinum* may be planted in spring, though it is really better to purchase the bulbs as soon as they are obtainable in autumn and winter, pot them, and keep them in the greenhouse until March or early April. Montbretias may be left alone for several years, though to obtain the finest blooms it is best to lift them annually and replant in early spring.

The Lawn.—The best time to sow grass seed for the purpose of forming a lawn is in the first half of September; the seed germinates quickly, and the grass will have taken strong hold by spring. It is necessary to mow it once or twice before winter, while rolling whenever the ground is not too wet or frozen will do much good. The plot must be dug thoroughly, all weeds being removed. It is impossible to have a satisfactory lawn unless the ground is properly prepared some weeks beforehand. It should be dug over several



The Lawn

times, care being taken to pick out the roots of weeds, and subsequently the surface is made fine by forking and raking. Having obtained a fine and level surface, sow the seeds thickly from east to west and from north to south; rake them in the soil, and roll well. Protection from birds must be provided by means of netting or black thread, though they are rarely so troublesome in September as in March and April, when grass seed may also be sown.

Moss on the Lawn may be got rid of by raking off as much as possible, and by watering the affected parts with a solution of sulphate of iron, $\frac{1}{4}$ oz. dissolved in a gallon of water. Daisies are killed by using lawn sand in October and again in early April. The following is a recipe for making lawn sand. Grind and well mix these ingredients: $\frac{1}{2}$ lb. of sulphate of iron, $1\frac{1}{2}$ lb. of sulphate of ammonia, and 12 lb. of sand. The mixture is scattered on the ground at the rate of 2 or 3 oz. per square yard.

A few excellent Flowering Shrubs are the following: Winter Jasmine (*Jasmine nudiflorum*), bears yellow flowers in winter and early spring; Golden Bell (*Forsythia suspensa*), yellow flowers in March; Snowy Mespilus (*Amelanchier canadensis*), smothered in white blossom in April; *Pyrus floribunda* (a flowering Crab), laden with pink-white bloom in May; Darwin's Barberry (*Berberis Darwinii*), an evergreen, having orange-yellow flowers in spring; Brooms (*Cytisus præcox*, cream colour, and *Cytisus Andreanus*, red and yellow), very beautiful in early summer; *Cerasus J. H. Veitch*, a charming double pink blossomed

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cherry ; Lilac (*Syringa*) in many varieties ; Mock Orange (*Philadelphus Lemoinei*) ; *Spiræa Thunbergii*, small white flowers and autumn-tinted foliage ; New Zealand Daisy Bush (*Olearia Haastii*), an evergreen with white, Daisy-like blooms in August ; *Laurustinus* (*Viburnum Tinus*), evergreen, bearing flat bunches of white bloom in winter and spring.

About Hedges.—Although the Privet is maligned as a matter of course by writers on gardening, they have not yet been able to suggest a substitute that is equally satisfactory as a hedge plant for a small garden. In large gardens the Whitethorn, or Quick, Hornbeam, and Beech among leaf-losing shrubs and trees, and the Yew and Holly among evergreens, are good hedge plants. Amateurs who are not faced with the necessity of forming an impenetrable hedge might well consider the claims of some of the ornamental flowering shrubs, such, for example, as the New Zealand Daisy Bush (*Olearia Haastii*), and the Barberries, particularly *Berberis Darwinii* and *stenophylla*. All three are evergreen ; the Barberries blossom in early summer and the *Olearia* in August. Hedges of leaf-losing shrubs are best planted in October or November ; in the following February the shrubs ought to be cut to within 6 or 8 inches of the ground, with the object of forcing strong growths from the base. The plants may be set either in a single or in a double row, according to the space, and whether a thick hedge or merely a screen is required.

Clipping Hedges is a matter of importance. The top of the hedge ought to be kept narrower



Annuals

than the base, otherwise the lower part of the hedge will become bare. In dealing with quick-growing shrubs like Privet, clipping must be practised every few weeks during summer, the final cutting being given in October to keep the hedge neat for the winter. Other shrubs, such as Hornbeam and Quick, can be kept sufficiently tidy by clipping in early and late summer.

The best time to plant a hedge of evergreens is in September or April. Holly and Yew do not need clipping more than twice a year—in May and again in August. The hedges of flowering shrubs must not be clipped in the orthodox way; all that can be done to the Barberries is to trim them into shape and to cut out old and worthless shoots immediately after the flowers have faded. The Daisy Bush needs little attention; the old flower-heads should be removed in autumn, and some cutting back to ensure a shapely bush is required in spring.

Annuals.—Annuals are plants which sprout, blossom, and die within a year; they can only be raised from seed, which in the case of hardy annuals may be sown in autumn or in spring. They are particularly easy to grow, and the only care required is to sow thinly on well prepared soil, and to thin out the seedlings to such an extent that each one has sufficient room for proper development. Those sown in autumn will bloom in late spring and early summer, while those sown in March and April will blossom from July onwards. The following are to be strongly recommended to the amateur: Blue Nemesis; Rose-Mallow (*Lavatera rosea*); Red Flax (*Linum*

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grandiflorum rubrum); Tassel Flower (*Cacalia coccinea*), bearing flowers closely resembling red tassels; dwarf white Alyssum, which remains in bloom throughout the summer and is indispensable for edging; Love-in-a-Mist (*Nigella Miss Jekyll*); Shirley Poppy; Blue Woodruff (*Asperula azurea setosa*); *Coreopsis Drummondii* and *tinctoria*, bearing a profusion of brown and yellow, and yellow Daisy-like flowers respectively; Mignonette; *Clarkia*; and *Nemophila insignis*, a showy, low-growing, blue-flowered plant.

Biennials.—These are plants which, if sown in June, will blossom the following summer. Chief among them are Wallflower, Canterbury Bell, Snapdragon, Foxglove, *Aquilegia* or Columbine, Honesty, Sweet William, Forget-me-not, and Brompton Stock. Some of these are really perennials, though they give the best results when raised from seed each summer. Seed is sown in a prepared border in May or early June, and when the seedlings are an inch or two high they are transplanted at 6 or 8 inches apart, and in October are put out where they are to bloom the next year. These flowers are perfectly easy to grow if the seeds are sown thinly, the seedlings transplanted before they are crowded and spoilt, and if put out on good soil for the summer. Chinese Pink, Daisy, Polyanthus, and Primrose may be treated similarly.

THE AMATEUR'S GREENHOUSE

MANY very beautiful flowers can be grown in a small greenhouse that is heated sufficiently in

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winter to maintain a minimum temperature of 40° to 45°. This warmth is easily obtained by means of a heating apparatus consisting of 2-inch zinc pipes, boiler, oil-lamp, and a chimney which passes through the roof to take off harmful fumes. The simplest of all kinds of heating apparatus is formed by a cone of flower-pots of various sizes, and by placing an oil-lamp beneath the bottom one. This has the disadvantage that the fumes are not carried out of doors; however, if the lamp is carefully tended and not allowed to smoke, little if any harm will be done, and the flower-pots give off a good deal of warmth when they have become heated.

How to Begin.—A start may profitably be made in autumn by potting a selection of spring-flowering bulbs, which will give an excellent and prolonged display from February onwards. Some of the most suitable sorts are Daffodil, Narcissus, Hyacinth, Tulip, Glory of the Snow (*Chionodoxa*), Grape Hyacinth (*Muscari*), Apennine and Poppy Anemones, Crocus, and Spanish Iris. The bulbs are potted in September, several together in pots of 5 and 6 inches diameter. The pots should be drained by means of a few crocks at the base, and the best compost is rough turfy soil, with which a little sand, leafmould, and bonemeal are mixed. The tops of the smaller bulbs should be just covered with soil, but only about two-thirds of the larger ones can be conveniently covered. The pots of bulbs are placed out of doors, preferably beneath old ashes, for six or eight weeks, and then are brought into the greenhouse, a few at a time, in order that they may keep up a suc-

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cession of bloom. If the pots of bulbs are not covered with ashes, it is best to dig a trench in the garden and place soil over them; in that case they ought to be watered with lime water before being taken into the greenhouse, for the purpose of getting rid of worms.



Cyclamen and Primula—Two Flowers for the Amateur's Greenhouse

Freesia and Lachenalia are charming flowers for early spring; they should be potted in August and September respectively, and be placed in a darkened frame for six or eight weeks, but need not be covered with ashes. Bulbs under ashes out of doors will, if watered before covered, keep sufficiently moist, but those in a frame need to be watered occasionally. A few Wallflowers ought to be potted in October; they will be very welcome in spring, and blossom well when grown in pots.

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The Bulbs of various Lilies are obtainable during winter or early spring, such, for example, as *auratum*, *speciosum*, *longiflorum*, and *tigrinum*. They ought to be placed in 7- or 8-inch pots, the pots being only half filled with a compost of loam, leafmould, and sand. The bulbs must be only partially covered, the remaining space being filled with soil when growth starts in spring. Very careful watering is necessary; only sufficient water should be given to keep the soil slightly moist.

Tuberous Begonias.—In February the roots of Tuberous Begonias should be obtained and placed in boxes filled with leaf-soil. When little shoots are seen, the roots must be potted in small flower-pots, using a compost of loam with a little peat or leaf-soil and sand. As they progress, they are potted into larger pots—they will make excellent specimens in those 6 inches wide.

The Perpetual Flowering Carnation is an invaluable plant for the amateur's greenhouse. Rooted cuttings should be obtained in March. If repotted until they are in 6-inch pots and "stopped" twice (though not later than the end of June), they will bloom freely in winter and spring. They are increased by means of cuttings taken in autumn or spring, and placed in boxes of sand on the hot-water pipes.

Flowers from Seed.—Various plants may be raised from seed sown during February and March. The dainty little pink-flowered *Primula malacoides* will bloom in a few months' time, and if seed is sown occasionally, it may be had in bloom almost throughout the year. Other flowers to raise from

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seed in spring are *Torenia Fournieri*, with purple and yellow blossom; *Lobelia tenuior*, a graceful blue-flowered plant, *Arctotis grandis*, with greyish, Daisy-like blossom; *Clarkia*; *Schizanthus* or Butterfly Flower; and other annuals which are described in catalogues.

In May seed should be sown of the handsome herbaceous *Calceolarias*, *Cinerarias*, *Primula obconica*, and Chinese *Primulas* (especially the Star flowered varieties), while in July the Double Wall-flowers and Winter Flowering Stocks ought to be sown.

Chrysanthemums.—If *Chrysanthemums* are sown in warmth in February, they will bloom in autumn, while cuttings, taken in January and February, of the named varieties will keep the greenhouse gay during the dull months of autumn and early winter. *Marguerite Carnations* from seed sown in February and March will be useful in autumn.

HOW TO SUCCEED WITH VEGETABLES

AMATEURS may see from a glance at the accompanying table how and when to sow the chief vegetables, and the approximate time in which the produce will be ready to gather. Nevertheless, a little further explanation may be opportune. It goes without saying that good crops of vegetables can be obtained only from ground that is well tilled and sufficiently manured, but some crops need richer ground than others. Chief among these are Peas, Beans, Celery, Leeks,

How to Succeed with Vegetables

Onion, and Greens of various sorts. Root crops should not be grown on land that has been manured recently; they ought to follow one of the crops for which the ground was enriched the previous year. A most important point is to pay attention to the rotation of crops; it is folly to continue to grow the same kind of vegetable on the same ground year after year; such a practice will sooner or later lead to disaster, particularly in the case of Greens. During the winter the amateur should plan out his plot and decide where the principal crops are to be grown. Potatoes may be grown in the same place for several years, providing the land is manured each autumn; but it is better to have them on fresh ground, if possible, every two or three years at least.

The simplest way to arrange a satisfactory rotation is to allocate part of the plot to main crop Potatoes and to mark off the remaining portion into three plots. On No. 1 grow early Potatoes, early Peas, and Broad Beans; they will be off in July, and can be succeeded by Autumn and Winter Greens. On No. 2 plot grow root crops such as Parsnip, Carrot, Turnip, Beetroot, etc. On No. 3 plot plant maincrop Peas, Runner and French Beans, Onion, Celery, and Leek, or whichever of these are required. In subsequent years the crops should follow each other round; that is to say, those grown on No. 1 plot will be on No. 2 the next year; those on No. 2 will be on No. 1, and so on. Thus the vegetables will not be grown on the same soil more often than once in three years, and they will give the best possible return if properly attended to.

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KIND	VARIETY	SOW OR PLANT	DIS- TANCE APART <i>inches</i>	DEPTH <i>inches</i>
Artichoke . . .	Globe	March	36	6
"	Jerusalem	Jan.-Apr.	12 x 15	6
Asparagus . . .	Palmetto	March	12 x 12	2
"	1- or 2-year old plants	Early April	12 x 12	
Beans, Broad . .	Dwarf Gem	Nov.-Jan.	12 x 6	3
" "	Leviathan Exhibition	Jan.-Apr.	15 x 12	3
" "	Taylor's Windsor	Feb.-May	15 x 12	3
" Dwarf . .	Plentiful	Apr.-July	12 x 8	2
" " . .	Canadian Wonder	Apr.-July	12 x 8	2
" Runner . .	Best of All	May-June	12 x 8	3
" " . .	Emperor	May-June	12 x 8	3
" Butter . .	Mont d'Or	May-July	6 x 6	2
Beetroot . . .	Globe	Mar.-July	12 x 6	2
" Long . .	Blood Red	Apr.-June	12 x 9	2
" " . .	Dobbie's Purple	Apr.-June	15 x 9	2
Borecole . . .	Asparagus	May	24 x 24	1
"	Extra Curled	Mar.-May	24 x 24	1
"	Cottagers	Mar.-May	24 x 24	1
Broccoll . . .	Penzance	Mar.-Apr.	24 x 24	1
"	Self-Protecting	Apr.-May	24 x 24	1
"	Leamington	Apr.-May	24 x 24	1
"	Late Queen	Apr.-May	24 x 24	1
"	Christmas Sprouting	April	24 x 24	1
"	Purple Sprouting	Apr.-May	30 x 24	1
Brussels Sprouts .	Dwarf Gem	March	18 x 18	1
" "	Solidity	April-early May	24 x 30	1
" "	Wroxton	April-early May	24 x 30	1



Vegetable Growing at a Glance

CROP READY	AMOUNT OF SEED NEEDED	REMARKS
June-July	Allow 3 ft. between roots	Very ornamental ; 4 ft. high.
Oct.-Mar.	Gallon of roots for 50 ft. of row	Useful for shade or protection.
Three years	1 oz. sufficient for large bed	This crop needs very liberal manuring each year.
Year after planting.		
May	1 pt. to 80 ft. run	Small pods ; very productive.
Early June-Sept.	1 pt. to 60 ft. run	Very long pods.
July-Sept.	1 pt. to 50 ft. run	The best for flavour.
July-Nov.	" "	Good for light soils.
July-Nov.	" "	Most popular. Very long pods.
July-Nov.	1 pt. to 40 ft. run	These two are the very best. Need rich soil and ample watering.
July-Nov.	" "	
July-Sept.	" "	Useful also as a winter vegetable.
Aug.-May	1 oz. to 60 ft. run	Good for poor, shallow soil.
Sept.-May	" "	Medium size. Good colour.
Sept.-May	" "	The darkest variety.
Apr.-May	1 oz. for 1,000 plants	These are very hardy, and may be planted after the early Potatoes.
Nov.-Mar.	" "	
Nov.-Mar.	" "	
Nov.-Dec.	" "	Broccoli need rich but very firm ground. The varieties here named form a good succession.
Dec.-Feb.	" "	
March	" "	
April	" "	
Jan.-Mar.	" "	
Mar.-April	" "	A most profitable crop.
September	" "	These must have a heavily-manured soil, or the crop will be unsatisfactory.
Oct.-Mar.	" "	
Oct.-Mar.	" "	

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KIND	VARIETY	SOW OR PLANT	DIS- TANCE APART <i>inches</i>	DEPTH <i>inches</i>
Cabbage . . .	All Heart	Mar.-Apr.	12 × 12	1
"	Winnigstadt	Mar.-Apr.	18 × 18	1
"	Harbinger	July-Aug.	12 × 12	1
"	Flower of Spring	July-Aug.	15 × 15	1
"	Imperial	July-Aug.	18 × 15	1
Carrot, Early .	Early Gem	Feb.-July	6 × 6	1
" Maincrop .	Red Intermediate	April	10 × 8	1
Cauliflower . .	Magnum Bonum	February	18 × 18	$\frac{1}{2}$
"	Early London	Mar.-Apr.	24 × 24	$\frac{1}{2}$
"	Autumn Giant	April-early May	24 × 30	$\frac{1}{2}$
Celery	Solid White	February	9 in. double row in each trench	1
"	Superb Pink	Mar.-Apr.	10 in. double row in each trench	1
Cucumber (House)	Everyday	Jan.-Apr.	24	1
" (Frame)	Telegraph	March	1 plant in the centre of each light	1
" (Outdoor)	Giant Ridge	April	24	1
Endive	Batavian	June-Aug.	9 × 12	$\frac{1}{2}$
"	Moss Curled	June-Aug.	9 × 12	$\frac{1}{2}$
Kohl Rabi . . .	Green	Mar.-June	15 × 9	$\frac{1}{2}$
Leek	The Lyon	Jan.-Feb.	12 × 15	1
"	The Lyon	Mar.-Apr.	10 × 12	1
Lettuce, Cos . .	Paris, Kingsholm	Mar.-Sept.	6 × 12	$\frac{1}{2}$
" Cabbage .	All the Year Round	Jan.-Sept.	6 × 12	$\frac{1}{2}$
Onion	Ailsa Craig	Jan.-Feb.	12 × 12	1
"	Rousham Park Hero	March	6 × 9	1
"	James' Long Keeping	March	6 × 9	1

Vegetable Growing at a Glance

CROP READY	AMOUNT OF SEED NEEDED	REMARKS
July-Aug. August	1 oz. per 1,000 plants " "	A very useful little cabbage. Four times as large as the above.
Mar.-Apr. Apr.-May	" " " "	} These three varieties are equal to any where a long succession is needed.
Apr.-June May-June Sept.-Apr.	" " 1 oz. 160 ft. 1 oz. 100 ft.	
June-July	1 oz. for 1,000 plants	Dwarf. Raise in warmth.
July-Aug. Sept.-Dec.	" " " "	Very useful. The largest and most popular.
September	1 oz. for 1,000 plants	Blanches very rapidly.
Nov.-Apr.	" "	Hardy and of good quality.
10-12 weeks	" "	These require good turfy soil and much moisture.
June-Oct.		
Aug.-Sept. Sept.-Dec. Sept.-Dec.	 1 oz. for 1,000 plants " "	Useful for pickling. Useful as winter salad. More ornamental than the preceding.
July-Jan. Aug.-Sept. Nov.-Apr.	1 oz. 100 ft. 1 oz. 500 plants " "	Substitute for Turnips.
10-12 weeks	1 oz. 600 plants	} Needs very rich ground. } Needs rich ground and plenty of moisture.
8-10 weeks	" "	
Aug.-Mar.	1 oz. 200 ft.	The favourite exhibition variety.
Sept.-Mar.	1 oz. 150 ft.	
Sept.-May	" "	} These two are the most popular and useful for small growers.

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KIND	VARIETY	SOW OR PLANT	DISTANCE APART	DEPTH
			<i>inches</i>	<i>inches</i>
Onion	Bedford Champion	March	6 × 9	1
"	White Lisbon	Aug.-Sept.	6 × 12	1
Parsnip	The Student	Feb.-Apr.	9 × 12	1
Pea	Peter Pan	February		2
"	Gradus	Feb.-Mar.		2
"	Duke of York	Early Apr.		2
"	D. of Albany	Early May		2
"	The Gladstone	Early June		2½
Potato, Early . . .	Harbinger	Feb.-Mar.	9 × 18	6
" Midseason . . .	Windsor Castle	April	9 × 24	6
" Late	The Factor	April	12 × 24	6
" "	Arran Chief	April	12 × 24	6
" "	The Chapman	April	12 × 24	6
Salsafy	Sandwich Island	May	9 × 12	1
Savoy Cabbage . .	Dwarf Curled	Mar.-May	12 × 18	1
" "	Drumhead	April	18 × 24	1
Shallot	Russian Giant	Jan.-Mar.	9 × 12	½ bulb depth ditto
"	Ordinary	Jan.-Mar.	6 × 12	1
Spinach	Victoria	Feb.-Aug.	6 × 15	1
"	Prickly	Aug.-Sept.	6 × 12	1
"	Perpetual	Mar.-Sept.	9 × 15	2
Tomato	Sunrise	Jan.-May	15 × 24	½
"	Perfection	Jan.-May	18 × 30	½
"	Kondine Red	March	12 × 24	½
Turnip	Snowball	Mar.-Sept.	12 × 9	1
"	Orange Jelly	Mar.-Sept.	12 × 9	1
Vegetable Marrow	Perfection	April	24 × 36	1½
" "	Pen y Byd	April	24 × 36	1½
" "	Moore's Cream	May	36 × 36	1½
" "	Large Green	May	36 × 36	1½
" "	Green Bush	May	36 × 36	1½



Vegetable Growing at a Glance

CROP READY	AMOUNT OF SEED NEEDED	REMARKS
Sept.-May	1 oz. 150 ft.	This is also most popular and useful for small growers.
June-Nov	" "	Very mild, largely grown.
Nov.-May	1 oz. 200 ft.	Most useful for amateurs.
Early June	1 pt. to 50 ft. run	An excellent dwarf variety.
Late June	1 pt. to 60 ft. run	3 ft. high, of good quality.
July	" "	A useful succession.
July	1 pt. to 70 ft. run	Good for exhibition.
Aug.-Sept.	" 50	The most popular late Pea.
June	{ 200 sets to the rod, or 14 lb. to 100 ft. run	Dwarf, good for light soil.
July		Popular as a second early.
September		{ These three are suitable for all soils and cannot be beaten for winter use.
September	" "	
September	" "	
Nov.-May	1 oz. 150 ft.	Very useful for winter.
Sept-Dec.	½ oz. 500 plants	Very hardy.
Nov.-Feb.	" "	The largest of all.
July-Apr.	6 lb. 150 ft.	Needs rich soil!
July-Apr.	" "	Smaller than the above.
May-Dec.	1 oz. 100 ft.	{ This must have rich soil, or it soon runs to seed.
Nov.-Mar.	" "	Strongly recommended.
May-May	1 oz. 200 ft.	{ Useful for amateurs. Popular for show.
Apr.-Dec.	{ 6d. packet of these will produce hundreds of plants	
Apr.-Dec.		
Aug.-Oct.	" "	Good outdoor variety.
May-Mar.	1 oz. 200 ft.	Small sowings are to be preferred.
Aug.-Nov.	{ A 6d. packet contains several doz. seeds	Small green fruit.
Aug.-Nov.		Small white fruit.
Aug.-Nov.		Larger than the above.
Aug.-Nov.		The largest.
Aug.-Nov.		Useful for small gardens.

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HARDY FRUITS FOR AMATEURS

THE amateur cultivator of hardy fruits usually has more than a fair share of disappointment, but it is very largely his own fault. He will not listen to advice; he buys his trees or bushes haphazard, without ascertaining whether or not they are upon a suitable stock, and his selection of varieties often leaves much to be desired.

The Correct Time to Plant is in October and November. The soil ought to be dug not less than 2 feet deep, but no manure is necessary unless the soil is light and exceptionally poor. The use of basic slag is, however, desirable; half a pound to the square yard is a suitable quantity to use, and it should be well mixed with the soil about 12 inches deep. Details concerning planting and pruning are given on pages 12 and 14, so there is no need to describe them here.

Root Pruning is advisable only when a fruit tree makes vigorous growth, and fails to bear fruit; in that case, if carefully carried out, it is likely to do good. When dealing with large trees, it is necessary to root prune the roots on one side the first year, and the remainder the following year, to avoid checking the growth of the tree seriously. The way to proceed is to take out a trench at a distance of 5 or 6 feet from the stem, and fork some of the soil from beneath the tree; all thick roots must be shortened to 2 feet or so, small fibrous ones not being interfered with. When all thick gross roots have been dealt with, the trench is refilled with fresh turfy soil, in which basic slag is mixed, the fresh compost being trodden firmly. Such treatment is likely to restrict the



Hardy Fruits for Amateurs

branch growth of the tree, and to induce it to form fruit spurs more freely than hitherto. If all the roots of a large tree are pruned on one occasion, it may be so seriously checked in growth as to be rendered useless for several years. In dealing with young trees, it is sufficient to lift them and replant, with the roots arranged about 2 inches below the surface. It is a good plan to lift all



Apple Wellington, a splendid Late Cooking Variety

young fruit trees each autumn for the first two or three years after planting, for it is then that they are liable to make luxuriant growth.

Apple.—The amateur should obtain his Apple bushes on the Paradise stock. Standards for orchard planting are usually budded on the Crab stock, and do not bear fruit so quickly as bushes on the Paradise or dwarfing stock. Bush trees are planted 10 or 12 feet apart, and standards 25 to 30 feet apart, the ground between the latter

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being cropped during the first few years with bush fruits or vegetables. No manure should be used when planting fruit trees in the garden, though it is advisable to enrich the ground for standards. The orthodox pruning of Apples is to shorten the side shoots in June to five or six buds, and in winter to prune them to retain two buds of the base, with the object of encouraging the forma-



Apple Bismarck makes a Profitable Cordon

tion of fruit spurs. Shoots not required either to form fruit spurs, or to extend the tree, should be cut out. It is most important to keep the branches well apart; fruit trees will not bear satisfactory crops if the branches and shoots are allowed to become congested and to smother each other. During the first few years after planting, while the trees are developing, the leading branches should be shortened by one-third or one-half each winter, in order to induce them to become furnished with fruit spurs throughout their full length. If this is not done, they will start into

Hardy Fruits for Amateurs

growth at the top only. The leading shoots are treated in this way until the tree has become large enough, when they are pruned as advised for side shoots.

Some of the best Apples for amateurs are the following: the selection has been compiled with



Summer pruning is carried out by cutting off the tops of side-shoots above the fifth leaf. Subsequent growth must be stopped (a). In winter prune to within two buds of base

regard to the affinity of one variety for another. It is well known that some varieties are self-sterile, and others self-fertile, and by planting certain sorts together the likelihood of a crop is far greater than when the varieties are chosen indiscriminately. The varieties I recommend are: *Dessert*: King of the Pippins, Kerry Pippin, Allington Pippin, Beauty of Bath, Cox's Orange Pippin,

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James Grieye, and Worcester Pearmain. Of *Cooking Apples*: Ecklinville, Early Victoria, Lord Grosvenor, Newton Wonder, Stirling Castle, Bramley's Seedling, Lane's Prince Albert, and Baumann's Red Reinette.

Pear.—Pear trees for the garden ought to be on the Quince stock; standards for orchard planting on the Pear stock. The former come into bearing much more quickly than the latter. The remarks concerning planting and pruning already given with reference to the Apple apply also to the Pear, which responds even better to the practice of orthodox summer and winter pruning.

The following varieties form an excellent selection of Pears: Conference (the best of all Pears for cropping regularly), Durondeau, William's Bon Chrétien, Jargonelle, Clapp's Favourite, Emile d'Heyst, Louise Bonne de Jersey, Josephine de Malines, Fertility, and Winter Nelis.

Plum.—An important point in cultivating the Plum is to mix lime or mortar rubble freely with the soil. Young Plum trees very often make gross, unfruitful branches during the first few years, and the way to remedy or prevent this is to lift and replant them each autumn for the first three or four years after planting, taking care to re-arrange the roots near the surface and to shorten any thick ones. The pruning of the Plum is carried out similarly to that of the Apple, but whenever there is room, some of the side shoots, instead of being summer and winter pruned in the usual way, may be shortened only by one-third in winter.

Many of the best dessert Plums are rather poor

Peach and Nectarine

croppers, and it is advisable to plant among them a few trees of some of the free-fruited, cooking varieties, the best of which are also suitable for dessert when quite ripe. A mixed plantation of the following varieties is likely to give satisfaction : Victoria, Monarch, Pershore, and Czar (all cooking Plums), and Denniston's Superb, Reine Claude de Bavay, Early Transparent, and Oullin's Golden Gage.

Peach and Nectarine.—These delicious fruits can only be grown satisfactorily out of doors when planted against a wall facing south or south-west. They thrive best in soil with which mortar rubble or lime is mixed freely. One of the chief details of work is disbudding. In spring, when the trees start into growth, numerous shoots form on the branches when the flowers are over, and all except very few of them must be removed—not all at once, but gradually, and over a period of two or three weeks. Finally, there should remain only one near the base of each of the old branches, and one at the top. The latter will continue the growth of the old branch, and enable it to bring its fruits to perfection, while the former will produce the fruiting branch for the following year ; the branch bearing fruits during the current year will be cut out in autumn, and the fresh branch which originated as a small shoot at its base in spring will take its place and will bear fruit next year. The branches of the Peach and Nectarine should be trained at about 4 or 5 inches apart in the form of a fan.

A few of the best Peaches for amateurs are : Stirling Castle, Goshawk, Peregrine, and Violette

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Hative. Excellent Nectarines are: Dryden, Elruge, Humboldt, and Spenser.

Black Currant.—This useful bush thrives in a partially shaded position as well as in a sunny one, and it needs moist, loamy soil; it is not likely to be a success if planted in light soil in a hot position. During late years the Black Currant Mite, which causes the buds to become swollen and useless, has caused great damage among bushes of this fruit; the best remedies are to prune hard in spring and to spray with lime sulphur wash in April and May. In pruning the Black Currant, work which is carried out in autumn or winter, old shoots are cut out, and those of the previous summer are left untouched, except for a slight shortening if the ends are thin or unripened. Baldwin's, Black Naples, and Boskoop Giant are three good varieties.

Red and White Currants.—These may be planted as bushes in an open sunny situation, or in a partially shaded one for the purpose of lengthening the season of fruit. They are also extremely useful when grown in the form of cordons, and trained against a trellis made by stretching stout wire between posts or against a wall facing east. The pruning of Red and White Currants is simple; in summer the side shoots are "stopped" when they have formed five or six leaves, and in winter they are again shortened to within two buds of the base. This is done with the object of promoting the development of fruit spurs. Further, when pruning bushes, care must be taken to keep the branches well apart from each other, so that light and air may have free access to all parts



Gooseberry

of the bushes; if the branches and shoots are crowded, the bushes are not likely to bear fruit freely. Fay's Prolific and Raby Castle are suitable varieties of Red Currant, while White Dutch and White Transparent are good varieties of the White Currant.

Gooseberry.—Although the Gooseberry is most commonly grown as a bush, it is, neverthe-



Showing (left) Gooseberry Bush unpruned, and (right) pruned. Side shoots are cut back, and promising young shoots left almost full length

less, very successful as a cordon, and amateurs are strongly advised to grow it in that form. Like the Red and White Currants, it may be planted, as a cordon, against a trellis or wall in a partially shaded position. Gooseberry bushes are planted 5 or 6 feet apart, while single cordons may be put only 10 or 12 inches from each other; double and treble-stemmed cordons will, of course, need to be put farther apart. The Gooseberry responds well to the orthodox summer and winter pruning as advised for the Red and White Currant, and so far as cordons are concerned, this is the only method that can be followed. In dealing with bushes it is most necessary to keep the branches well apart from each other, and it very often pays to allow

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good shoots of the previous year's growth to remain almost full length, instead of shortening them in summer. But when this practice is followed, care must be taken to avoid overcrowding.

There are numerous varieties of Gooseberries, and they are conveniently divided into two classes, according to the size of their fruits. Some of the finest of the small sorts (the best for general purposes) are—*Red*: Ironmonger and Keen's Seedling; *Yellow*: Champagne Yellow and Golden Gem; *Green*: Greengage and Langley Gage; *White*: Whitesmith. A few excellent large Gooseberries are Crown Bob and Whinham's Industry (red), Langley Beauty (yellow), Plunder (green), and Careless and Shiner (white).

Strawberry.—To grow this delicious fruit well, it is necessary to plant in deeply dug, loamy soil, which has been enriched with yard manure. A sunny position is best, though the Strawberry may also be grown on a partially shaded border for the purpose of obtaining a crop of late fruits. The runners—small plants on long, stalk-like growths—are pegged in small pots of soil, or into the ground, in late June and early July, for the purpose of obtaining plants with which to form a new plantation. If the soil is kept moist, the little plants will be well rooted in about a month, and will be ready for transplanting in August. If the runners are layered directly in the soil, this must be loosened thoroughly first, otherwise the runners will not form roots freely. Layering in small pots of soil gives rather more trouble, but it is the best plan. If the rooted runners are

How to Destroy Common Pests

planted in August, a fair crop of very fine fruits may be expected the following summer, but if the work is delayed until autumn, the first season's crop will not be so good. It is usual to dig up a Strawberry bed when three crops have been gathered, though, if only small fruits are required, it may be left another year or two. A convenient method of planting is to put the Strawberries at 12 inches apart, in rows 2 feet from each other. After the first season's crop has been gathered, alternate plants in the row are taken up, thus leaving all at 2 feet apart.

A few excellent varieties are Royal Sovereign, Sir Joseph Paxton, Dr. Hogg, Fill-basket, President, and Bedford Champion. Waterloo and Givon's Late Prolific are splendid late Strawberries, while those who care for something out of the ordinary may plant Louis Gauthier, which has pale pinkish fruits and crops freely.

Autumn Fruiting Strawberries.—These may be grown in the same way as the ordinary summer fruiting kinds; they bear rather small fruits during late summer and autumn, and are excellent for small gardens as the plants do not take up much room. They are increased by means of layers in the way already described. The best variety is St. Antoine de Padoue.

COMMON PESTS AND HOW TO DESTROY

Aphis or Green Fly.—This pest is the commonest of all, and attacks innumerable plants and bushes. The simplest remedy is to dissolve a handful of soft soap in a little hot water, and

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to add more hot water to make 2 gallons ; a wine-glassful of paraffin is then poured in. The mixture must be kept well stirred. Syringeing infested plants with very hot water is a simple and good remedy. Syringe not once only, but on two or three days in succession.

American Blight.—This pest, which is also called Woolly Aphis, is widely prevalent on fruit trees. When present in small quantities only, it may be killed by means of a brush dipped in methylated spirit ; loose bark, which offers a convenient hiding-place for the pest, should be scraped off.

Black Currant Gall Mite.—This is a minute pest which attacks the buds of the Black Currant, and causes them to become enlarged and useless. All large buds should be removed and burnt as soon as noticed, and if the attack is a bad one, bushes must be hard pruned to within a few inches of the base of the branches. The effect of this will be to ruin the prospects of fruit for one season. Spraying with lime sulphur mixture is recommended. Slake 1 lb. of quicklime, add 1 lb. of powdered sulphur, and make into a paste ; add 20 gallons of water, and stir freely ; strain before use. Spray the bushes with this solution late in March at the middle of April and early in May.

Codlin Moth.—The caterpillars of the Codlin Moth do enormous damage to the Apple crop, by boring into the fruits and rendering them useless. It is important to gather and burn all affected fruits that fall, and to spray with arsenate of lead as soon as the Apple blossom has fallen, with the object of preventing the Codlin Moth from laying her eggs in the embryo fruits.

How to Destroy Common Pests

Gooseberry Sawfly.—This plays havoc with Gooseberry bushes in most gardens. As many as possible of the caterpillars must be destroyed by handpicking, and before they become numerous. The removal of a few inches of the surface soil from beneath the bushes in winter does good, while spraying with soft soap and paraffin solution, or with hellebore powder, is advisable; the hellebore powder is poisonous, and the fruits must not be used within five or six weeks of its application.

Leaf Miner.—Everyone who has grown such plants as Chrysanthemum, Marguerite, and Celery has noticed the white, vein-like markings on the leaves, the work of the grubs of a Leaf Miner. The grubs can be seen between the tissues of the leaf, but they are difficult to destroy, except by crushing by hand. It is best to try and prevent the fly depositing her eggs on the leaves by sprinkling them with soot or syringing them with weak tar water occasionally, in spring and summer. To get rid of this pest on plants under glass, a preparation called Auto-Shreds should be used.

Red Spider.—This is a minute pest which is especially liable to attack plants under glass and those planted against a warm wall. It delights in hot, dry conditions. Keeping plants properly moist at the root and syringing them frequently tend to prevent attacks of Red Spider; a remedy is found in syringing with salt water, an ounce of salt dissolved in a gallon of water. It is important to direct the spray chiefly to the lower surface of the leaves, for there Red Spider is mostly found.

Sawflies.—The caterpillars of various Sawflies do great damage to the foliage of Roses, fruit

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bushes, and other plants during the summer months. One of the best and simplest remedies is to syringe with hellebore powder solution; this is made by mixing 1 oz. of hellebore powder and 2 oz. of flour in a little water, and adding water to make 3 gallons. Hellebore powder is poisonous, and in its stead lime water may be used; this is obtained by placing 1 lb. of quicklime in 1 gallon of water, stirring well; after it has stood for forty-eight hours the clear liquid is syringed over the affected plants.

Winter Moth.—The caterpillars of the Winter Moth are especially troublesome to the fruit-grower, though the mischief they do is not confined to fruit trees. The best way to combat this pest is to place bands of grease-proof paper round the tree stems in October and to smear them with cart grease, renewing the substance throughout the winter as becomes necessary. The wingless female moths are thus caught as they ascend the stem to lay their eggs on the tree.

Wireworm.—This is one of the most injurious of soil pests and does immense harm to the roots of various plants. It is most abundant in freshly cultivated ground, and is found chiefly in the fibrous soil a few inches below the surface. The best remedy is to dig the ground over as frequently as possible during autumn, winter, and spring, and to destroy all that are seen. Other measures to take are to use lime and soot, or one of the advertised soil fumigants.

Slug.—It is doubtful if there is a better method of destroying slugs than searching for them after dark, and placing them in a tin of salt water. Those

What to Do Each Month

who do not care to follow this plan should use a mixture of lime and soot freely on the soil surface, and fork over or dig the latter as frequently as possible. Baits of various kinds may be put down at night and examined in the morning: Lettuce leaves, orange peel, and bran attract them. The V.T.H. slug trap, to be obtained from horticultural sundriesmen, and seedsmen, is to be recommended.

WHAT TO DO EACH MONTH

January

Out of doors.—Dig all vacant ground and throw up roughly. Prune hardy fruit trees. In mild weather plant trees, shrubs, and hardy plants, providing the ground is moderately dry. *In the greenhouse.*—Take cuttings of Chrysanthemum and Perpetual Carnation. Bring Roses in pots under glass and prune. Remove pots of bulbs from beneath ashes and place under glass. If a minimum temperature of 50° to 55° can be maintained, sow seeds of Tuberous Begonia, Snapdragon, Gloxinia, Chrysanthemum, and St. Brigid Anemone. Sow also Onion, Melon, Tomato, Cucumber. Put seed Potatoes in box in light, frost-proof place to sprout.

February

Out of doors.—Complete the pruning of hardy fruit trees; prune Gooseberries last of all, owing to the damage done to the buds by birds. Continue to plant hardy trees, shrubs, and plants. Late in the month, prune Roses on wall. Roll and sweep the lawn. Make rockeries. Sow Sweet Peas, Parsnip, and Broad Bean. *In the green-*

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house.—Place roots of Tuberous Begonia and Dahlia in boxes of light soil ; pot the Begonias as soon as fresh growth starts, and use the shoots of Dahlia as cuttings. Take cuttings of summer bedding plants, such as Geranium, Lobelia, Heliotrope, Iresine, Fuchsia, etc. ; the cuttings are obtained from old plants kept in the greenhouse during winter. Take cuttings of Perpetual Carnation and Chrysanthemum ; the latter will form useful decorative plants. Finally repot Cineraria and Calceolaria. Sow seeds of Celery, Leek, Onion, and Cauliflower.

March

Out of doors.—Complete the planting of Roses, fruit trees, shrubs, and border and rockery plants. Towards the end of the month prune all except Tea Roses. Give manure to Rose beds and fork it beneath the surface. Plant Gladiolus, *Lilium auratum* (Golden-rayed Lily), *Lilium speciosum* (Japanese Lily, rose and white), *Galtonia candicans* (Cape Hyacinth), and *Montbretia*. Sow Sweet Peas and hardy annuals generally. Sow grass seed and lay turf to form fresh lawns. Fork up bare patches on lawns and sow with grass seed. Plant sprouted tubers of early Potatoes on a warm border. Sow Peas, Broad Beans, and Parsnip. Graft fruit trees. *In the greenhouse.*—Take cuttings of Zonal Geraniums for winter-flowering. As the leaves of Winter Begonias, Freesia, Cyclamen, and Lachenalia (Cape Cowslip) fade, gradually give less water. Take more cuttings of bedding plants if required. Take cuttings of Perpetual Carnation and Border Chrysanthemum. Repot cuttings of various plants that

What to Do Each Month

were rooted some weeks ago. Start into growth the roots of Tuberous Begonia, Gloxinia, Achimenes, yellow Arum Lily, and Dahlia. Sow seeds of half-hardy annuals in variety; e.g. Aster, Ten Week Stock, Zinnia. Repot Ferns and room plants. Pot Lily bulbs. Sow seeds of Cauliflower, Brussels Sprouts, Cabbage, and Lettuce if early crops are wanted. Sow also Aubergine or Egg plant and treat as for Tomato.

April

Out of doors.—Prune Tea Roses during the second week of the month. Hardy plants, trees, and shrubs planted later than the first or second week in April are not likely to yield good returns the same year. Sow grass seed, hardy and half-hardy annuals. Plant alpine on the rockery. Increase Violets by layering or by division. Plant border Chrysanthemum, Pentstemon, old roots of Dahlia, Gladiolus, and Sweet Peas raised in pots. Kill grubs on Rose bushes. Bulbs that have been grown in pots in the greenhouse are worth planting in the garden. Sow maincrop Peas and Carrots and plant the maincrop Potatoes. Sow Turnip, Cabbage, Lettuce, all sorts of Winter Greens, Spinach, Radish, etc. Protect fruit trees in blossom. *In the greenhouse.*—Repot rooted cuttings, and transplant seedlings as becomes necessary. Continue to sow seeds of half-hardy and greenhouse annuals. Sow seeds of Border Carnation. Harden off bedding plants by placing them in a cooler atmosphere, as, for example, in a frame. Take cuttings of winter-flowering Begonias. Fruit trees now starting to grow freely must have a moist atmosphere and a minimum night tempera-

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ture of about 50°. Pinch out the points of Perpetual Carnation, Fuchsia, Coleus, and other quick-growing plants to make them branch out. When Azaleas have finished flowering, cut back the shoots slightly and keep the plants in a moist atmosphere of 50° to 55°. Remove superfluous shoots from Peach and Nectarine trees and Vines. Repot Tomato plants into 5-inch pots. Sow seeds of Vegetable Marrow, Melon, and Cucumber.

May

Out of doors.—Complete the sowing of half-hardy annuals. Sow seeds of Wallflower, Columbine, Foxglove, Forget-me-not, Polyanthus, Daisy, Sweet William, and hardy perennials and alpinists. Thin out the weakest shoots of vigorous hardy perennials. Stake Sweet Peas and Border Carnations. Water the rockery freely in dry weather. Take up spring flowers, dig the beds in preparation for planting summer flowers. Place lifted bulbs in a shallow trench on a reserve border, cover roots with soil. Harden off all bedding plants. Disbud Peach and Nectarine trees. Spray fruit trees with (poisonous) arsenate of lead wash, as soon as flowers have fallen, to kill grubs and caterpillars. Sow Beetroot, French and Runner Beans, Rosette Colewort, and Tom Thumb Savoy, and continue to sow Lettuce, Radish, Turnip, and Carrot to maintain a succession. Plant out Vegetable Marrow on bed of loam enriched with manure. Plant Melon and Cucumber in frames.

In the greenhouse.—Repot as becomes necessary plants for autumn and winter-flowering; e.g. Chrysanthemum, Salvia, Bouvardia, Zonal Geranium, Perpetual Carnation. Sow seeds of Chinese

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Primula, *Primula obconica*, *P. Kewensis* and *P. malacoides*, *Cineraria*, and *Calceolaria*—all for flowering in winter and spring. Grow in cool frame. Gradually dry off *Cyclamen*, *Freesia*, *Lachenalia*, and *Nerine*—all beautiful winter and spring bulbous plants. Pinch out the ends of Vine shoots, leaving one joint beyond the bunch. Thin the bunches of Grapes.

June

Out of doors.—Sow seeds of Brompton Stock, Canterbury Bell, Sweet William, Iceland Poppy, Honesty, Mullein or *Verbascum*, Hollyhock, and all kinds of hardy flowers. Plant out summer bedding plants. Hoe the soil between all plants as far as possible. Attend to staking in good time, before the stems become misshapen. Water in dry weather. Mow the lawn once or twice a week and water freely. Scatter Clay's Fertilizer on Rose and flower beds, and hoe beneath the surface. Spray Rose trees to kill greenfly. Search for caterpillars. Remove superfluous buds of Roses and Border Carnations. Take cuttings of Pink, Arabis, yellow Alyssum, and other hardy flowers which have finished blooming. Cut back growths of Arabis, Aubrietia, dwarf Phlox, Alyssum, Iberis, etc., to keep the plants compact. Layer Strawberries. Syringe wall fruit trees with insecticide. Plant Tomatoes against a fence or wall, or in the open. Sow seed of Turnip, Lettuce, Endive, and Colewort. Put out plants of Autumn and Winter Greens, Celery, and Leek. *In the greenhouse.*—Cut out old shoots from climbing Roses. Sow seeds of *Cineraria*, *Primula*, and *Calceolaria*. Take cuttings of Winter Begonia and

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Show Pelargonium. Plant Tomatoes in border of soil or place in 9-inch pots. Pot Tuberous Begonias in 6- and 7-inch pots. Cease giving water to Cyclamen, Freesia, Lachenalia, and Nerine when the leaves have turned yellow.

July

Out of doors.—Pick faded blooms off Roses, Sweet Peas, Violas, Canterbury Bells, etc., to prolong flowering season. Water in dry weather. Tie shoots to their supports. Continue to sow seeds of hardy flowers. Layer Border Carnations. Bud Roses. Take cuttings of spring-flowering plants, such as Arabis, Alyssum, etc. Put winter-flowering Geranium, Salvia, Perpetual Carnation, Bouvardia, etc., into their final pots. Transplant, at 6 to 9 inches apart, seedlings of hardy plants raised in early summer. Summer-prune fruit trees. Remove side shoots from Tomatoes. Continue to plant out Winter Greens. Take up Shallots. Sow Parsley and Perpetual Spinach. Sow Turnip and Carrots for winter. At end of month sow Spring Cabbage. *In the greenhouse.*—Keep seedlings of Primula, Cineraria, and Calceolaria in a perfectly cool, shady frame. Take care that plants in pots, now out of doors, such as Chrysanthemum, Winter Geranium, Salvia, Perpetual Carnation, do not get dry at the root. Sow seed of winter-flowering Stock and double Wall-flower. Take cuttings of Roses and place in bottles of water in sunny greenhouse; when roots show, pot in small flower-pots and keep close for a week or two. Place Cyclamen in final pots. Repot seedling Primulas, etc. Admit air freely to fruit trees under glass.

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August

Out of doors.—Plant bulbs of the Madonna Lily (*Lilium candidum*) and such early spring bulbs as Crocus, Snowdrop, Winter Aconite, and Squill. Layer Border Carnations. Bud Roses. Prune climbing Roses, cutting out old stems and tying in new ones. Partially cut back shoots of bush Roses to encourage strong growths for autumn blooming. Hoe the beds frequently and give a little fertiliser. "Take" buds of Chrysanthemums by removing little shoots beneath them. Repot Arum Lilies that were planted out of doors in June. Take cuttings of Geranium and other bedding plants. Summer prune fruit trees. Cut out Raspberry canes which have borne fruit. Earth up Celery. Bend over the tops of Onions, and late in the month lift the bulbs. Sow Turnip and Carrot for winter. Sow Spring Cabbage during the first ten days of the month. Sow Onions for use in spring and summer. Continue to plant out all seedling Greens for which room can be found.

In the greenhouse.—Shake the roots of Cyclamen, Freesia, and Lachenalia out of the old soil, and repot. Give water to Nerines to start them into growth. Take cuttings of Hydrangea, Fuchsia, Geranium and Heliotrope. Continue to put Perpetual-flowering Carnations and other winter-flowering plants in their final pots. Pot bulbs of Paper White Narcissi and Roman Hyacinths. Sow Cyclamen, Mignonette, Winter-Flowering Stocks, and Butterfly flower (*Schizanthus*). Admit plenty of air to fruits ripening under glass.

September

Out of doors.—Layer Roses and various shrubs.

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Plant early-flowering bulbs. Take cuttings of Viola, Pentstemon, and all bedding plants. Keep down weeds by hoeing frequently. Sow grass seeds to form lawn and lay turf. Transplant evergreens. Insert cuttings of Roses and other shrubs. Plant Alpines on rockery. Sow hardy annuals for spring flowering. Sow Sweet Peas. Make a fresh Strawberry bed with the plants layered in July. Earth up Celery. Lift Potatoes. *In the greenhouse.*—Pot Hyacinths, Daffodils, and other bulbs, and place them out of doors under ashes or soil for six weeks. Bring winter-flowering plants, placed out of doors for the summer, into the greenhouse. Plant Violets on hotbed in frame to provide winter blossom. Give less water to summer flowering bulbous or tuberous rooted plants, now losing their leaves.

October

Out of doors.—Insert cuttings of Roses, shrubs, and small fruits. Plant trees, shrubs, Roses, and fruit trees. Make a fresh bed of Border Carnations with layers rooted in July. Plant Daffodils, Hyacinths, Tulips, Spanish and English Irises, and Lilies. See that climbers are secured to their supports. Take cuttings of Calceolaria, Pentstemon, and Viola. Plant beds and borders with spring-flowering plants, raised from seed and cuttings in early summer; associate bulbs in the beds with them. Lift and store roots of Dahlia, Gladiolus, and Tuberous Begonia. Take up overgrown clumps of perennials, divide and replant the outer portions. Root-prune fruit trees that make vigorous growth but do not bear fruit. Endeavour to get all hardy trees, shrubs, and plants put in this

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month; then they will do well the following year. Lift and store root crops except Parsnip and Jerusalem Artichoke. Carrots, Beetroot, and Turnips may be left in the ground if no storage room is available. Earth up Celery. Plant Cauliflowers (raised from seed sown in August) in a frame. Plant out seedlings of Spring Cabbage. *In the greenhouse.*—See that all tender plants are now brought under glass. Continue to pot bulbs and place under ashes out of doors, or at the foot of a cool fence.

November and December

Out of doors.—Continue to plant all hardy trees, shrubs, Roses, and perennials. If the ground is wet, use dry soil immediately about the roots. Insert cuttings of Roses and bush fruits. Rearrange and replant herbaceous borders, but do not disturb the plants unless they are overcrowded. Plant bulbs, including the handsome May-flowering Tulips. Autumn-prune bush Roses by shortening long shoots. Sow Sweet Peas in pots and put in a sheltered spot. Cut out from Peach and Nectarine trees the shoots that have borne fruit, and nail the fresh shoots to the wall. Cut out old stems from Loganberry and Blackberry, and tie the fresh shoots to their supports. Look over stored fruits and vegetables and remove decaying specimens. On light soil sow Broad Beans and Peas. Lift roots of Rhubarb, Chicory, and Seakale; place in boxes of soil in warm greenhouse or shed and keep dark. *In the greenhouse.*—Bulbs for spring-blossoming may still be potted. Keep the atmosphere of the greenhouse dry, otherwise the flowers now open will not last long in beauty.

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